

ABSTRACT OF THE DISCLOSURE

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5 The invention relates to a high-pressure discharge lamp of the ceramic metal halide type of the Philips MasterColor series having a molybdenum coil wrapped around the discharge vessel and at least a portion of the electrode feed through means, and having power ranges of about 150W to about 1000W. Such lamps are provided with a discharge vessel which encloses a discharge space. The discharge vessel has a ceramic wall and is closed by a ceramic plug. An electrode which is located inside the discharge space is connected to an electric conductor by way of a leadthrough element. The leadthrough element projects through the ceramic plug with a close fit and is connected thereto in a gastight manner by way of a sealing ceramic. The leadthrough element has a first part which is formed by a cermet at the area of the gastight connection. In addition, the lamps display one or more and most preferably all of the following properties: a CCT (correlated color temperature) of about 3800 to about 4500K, a CRI (color rendering index) of about 70 to about 95, a MPCD (mean perceptible color difference) of about ± 10 , and a luminous efficacy up to about 85-95 lumens/watt, a lumen maintenance of $>80\%$, color temperature shift $<200\text{K}$ from 100 to 8000, and lifetime of about 10,000 hours to about 25,000 hours. The invention also relates to design spaces for the design and construction of high power lamps and methods for construction of such lamps using the design spaces.

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